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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,418	09/30/2003	Chan-Tung Chen	3624-0130P	2698
2292	7590	09/07/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HUNTER, ALVIN A	
			ART UNIT	PAPER NUMBER
			3711	

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/673,418

Applicant(s)

CHEN ET AL.

Examiner

Alvin A. Hunter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakai et al. (JP 07-216490 A).

Regarding claim 1, Nakai et al. discloses a tungsten alloy for a golf club having at least 40 to less than 100 wt% of tungsten, and one or two metals (nickel and molybdenum) of 60 or less wt% (See Abstract). Though Nakai et al. does not disclose the specific amounts of nickel and molybdenum separately, one having ordinary skill in the art would have found it obvious to have nickel and molybdenum in any amount to obtain the specific gravity desired by the designer.

Regarding claim 2, the claim refers to a product by process; therefore, it is submitted that Nakai et al. meet the limitation of the claim so long as the final product has been achieved.

Regarding claim 3, Nakai et al. discloses the process for making the alloy using powder metallurgy (See Means for Solving the Problem).

Regarding claim 4, Nakai et al. discloses the alloy having a specific gravity of 11.3 to 19.2 (See Paragraph 0019).

Regarding claim 6, Nakai et al. discloses having at least one component for improving a mechanical property of the alloy.

Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakai et al. (JP ) in view of Kapoor (USPN 5760317).

Regarding claim 5, Naaki et al. does not disclose having silicon. Kappor discloses a tungsten alloy having silicon in 0 to 2 weight % (See Background of the Invention and Summary of the Invention). One having ordinary skill in the art would have found it obvious to incorporate silicon, as taught by Kapoor, into Nakai et al. in order to improve the processability of the tungsten alloy.

Regarding claim 7, Nakai et al. discloses copper being added in less than 3 weight % but does not disclose having manganese, niobium, and vanadium. Kapoor discloses a tungsten allow having manganese, niobium, and vanadium in amounts of 1 to 10 weight % (Summary of the Invention). One having ordinary skill in the art would have found it obvious to incorporate manganese, niobium, and vanadium, as taught by Kapoor, into Nakai in order to improve the deformability of the tungsten alloy.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin A. Hunter whose telephone number is 703-306-5693. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Vidovich, can be reached on 703-308-1513. The fax phone


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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AAH

Alvin A. Hunter, Jr.

  
GREGORY VBOVICH  
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